01-31-07

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Marin	§	Atty. Dkt. No.: COS-971
Serial No.: 10/751,243	§	Group Art Unit: 1713
Confirmation No.: 3854	§	Cust. No.: 25264
Filed: January 2, 2004	§	Examiner: Lu
For: Catalyst Components and their use in the Polymerization of Olefins	§	

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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TRANSMITTAL LETTER AND FEE AUTHORIZATION

In connection with the above identified application, Applicants respectfully submit the following documents:

1. Appeal Brief.

The Commissioner is authorized to charge the fee of $500.00, along with any additional fees that may be required for this submission, or credit any overpayments, to Deposit Account No. 03-3345.

Respectfully submitted,

Lenora Evans

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APPEAL BRIEF

Appellants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 1713 dated August 30, 2006, finally rejecting claims 1, 3 and 10-12.

Real Party in Interest

The present application has been assigned to Fina Technology Inc., P.O. Box 674412, Houston, Texas 77267.

Related Appeals and Interferences

Appellants assert that no other appeals, interferences or judicial proceedings are known to the Appellants, the Appellants' legal representative or Assignee that will

directly affect, be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1, 3 and 10-12 are pending in the application and were originally presented in the application. Claims 1, 3 and 10-12 stand rejected under 35 U.S.C. §102(b). The rejection of the pending claims is appealed. The pending claims are shown in the attached Appendix A.

Status of Amendments

Amendments to claim 1 were submitted in Response to the Final Office Action to include the subject matter of claim 2 into the subject matter of claim 1. The proposed amendments are shown in the attached Appendix B. The Examiner stated that "Applicants are advised to narrow the scope of the claims, such as to the scope of claim 2". *See*, Interview Summary dated October 18, 2006. However, the Examiner refused to enter such amendments in Response to the Office Action. *See,* Advisory Actions dated December 15, 2006 and November 9, 2006.

Summary of Claimed Subject Matter

Independent claim 1 recites an olefin polymerization catalyst characterized by the formula $B(FluA)MQ^n$, wherein Flu is a fluorenyl group substituted at at least one of the 4,5 positions by a bulky hydrocarbyl group containing a cyclic compound having from 3 to 30 carbon atoms, A is a substituted or an unsubstituted cyclopentadienyl group, a substituted or unsubstituted indenyl group, or a heteroorgano group XR in which X is a heteroatom from Group 15 or 16 of the Periodic Table and R is an alkyl group, a cycloalkyl group or an aryl group containing from 1 to 20 carbon atoms. B is a structural bridge between A and Flu imparting stereorigidity to the ligand structure (FluA), M is a Group 4 or Group 5 transition metal, Q is selected from the group consisting of Cl, Br, I, an alkyl group, an amino group, an aromatic group and mixtures thereof and n is 1 or 2. *See,* specification at least page 4, lines 1-18 (paragraph 8) and page 12, lines 1-12 (paragraph 19).

Dependent claim 10 recites a composition wherein A is a substituted or unsubstituted cyclopentadienyl group. *See*, specification at least page 14, lines 3-18.

Dependent claim 12 recites a composition wherein Flu is substituted at one of the 4 or 5 positions with a phenyl group which is substituted or unsubstituted. *See*, specification at least page 4, line 19 to page 5, line 10 (paragraphs 9 and 10).

Grounds of Rejection to be Reviewed on Appeal

1. The rejection of claim 10 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,770,752 (*Kauffman*).

2. The rejection of claims 10 and 12 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,668,230 (*Schertl*).

Arguments

I. THE EXAMINER ERRED IN REJECTING CLAIM 10 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY *KAUFFMAN* BECAUSE *KAUFFMAN* DOES NOT SHOW A COMPOUND WHEREIN A IS A CYCLOPENTADIENYL GROUP

Kauffman teaches indenyl substituted catalyst compounds (at the A position). *See*, column 9 lines 16-17 and column 13, lines 48-49. The Examiner is taking the position that fluorenyl groups and indenyl groups are equivalent to substituted cyclopentadienyl groups. *See*, Interview Summary. Appellants strongly disagree. In addition to the claim language itself, consideration of the description portion of the specification is mandatory in interpreting claim construction. *See*, *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 at 979, 34 U.S.P.Q.2d 1321 at 1329-30 (Fed. Cir. 1995) (suggesting that the court review the specification to determine whether terms are used in a manner inconsistent with their ordinary meaning.) Claims must be construed so as to be consistent with the specification of which they are a part. *See*, *Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 347 F.3d 1367, 1370 (Fed. Cir. 2003). Appellants submit that the terms substituent and/or substituted of the claims are not used in a meaning consistent with the Examiner's definition.

The specification specifically refers to indenyl and fluorenyl compounds by name when such compounds are intended and never as benzene substituted cyclopentadienyl

groups, as the Examiner proposes. Further, the specification explicitly recites that "the catalyst components of the present invention incorporate substituted fluorenyl groups which are bridged to substituted or unsubstituted cyclopentadienyl or indenyl groups ... in a manner to provide ligand structures which are unbalanced with respect to a plane of symmetry through the bridge and the transition metal." *See*, specification at paragraph 16. If the Examiner's definition that the cyclopentadienyl group can be substituted to form a fluorenyl group is utilized, such a compound would not meet requirement defined in specification that the ligands be unbalanced.

Further, when there are several common meanings for a claim term, the patent disclosure serves to point away from the improper meanings and toward the proper meaning. *See*, *Renishaw PLC v. Marposs Societa' Per Azioni*, 48 U.S.P.Q.2d 1117, 1122 (Fed. Cir. 1998). The specification clearly teaches catalyst compounds lacking a fused substituent on the Cp group (*e.g.*, indenyls and fluorenyls). Therefore, reversal of the rejection of claim 10 is respectfully requested.

II. THE EXAMINER ERRED IN REJECTING CLAIMS 10 AND 12 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY *SCHERTL*

Schertl teaches fluorenyl substituted catalyst compounds (at the A position). *See*, column 6, Table 1. The Examiner set forth the same arguments for the rejection over *Schertl* as for *Kauffman.* Appellants distinguished *Kauffman* from the pending claims in the above discussion and feel that repeating such arguments is unnecessary. Based on such previously presented arguments, Appellants respectfully request reversal of the rejection of claim 10.

Appellants further submit that *Schertl* does not teach a compound having a fluorenyl substituted at one of the 4 or 5 positions with a phenyl group. Rather, *Schertl* teaches a benzyl substituted phenyl group. Therefore, Appellants respectfully request reversal of the rejection of claim 12.

Conclusion

In conclusion, the references of record do not teach, show or suggest a compound wherein A is a cyclopentadienyl group, as recited in pending claim 10. Thus, Appellants respectfully request reversal of the rejection of claim 10.

Respectfully submitted,

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Appendix A

Pending Claims

1. A olefin polymerization catalyst characterized by the formula

$$B(FluA)MQ_n \qquad (3)$$

wherein:

a. Flu is a fluorenyl group substituted at at least one of the 4,5 positions by a bulky hydrocarbyl group containing a cyclic compound having from 3 to 30 carbon atoms;

b. A is a substituted or an unsubstituted cyclopentadienyl group, a substituted or unsubstituted indenyl group, or a heteroorgano group XR in which X is a heteroatom from Group 15 or 16 of the Periodic Table, and R is an alkyl group, a cycloalkyl group or an aryl group containing from 1 to 20 carbon atoms;

c. B is a structural bridge between A and Flu imparting stereorigidity to the ligand structure (FluA);

d. M is a Group 4 or Group 5 transition metal;

e. Q is selected from the group consisting of Cl, Br, I, an alkyl group, an amino group, an aromatic group and mixtures thereof; and

f. n is 1 or 2.

3. The catalyst composition of claim 1 wherein Flu is mono-substituted at the 4 or 5 position and is otherwise unsubstituted.

10. The composition of claim 1 wherein A is a substituted or unsubstituted cyclopentadienyl group.

11. The composition of claim 10 wherein M is titanium, zirconium or hafnium.

12. The composition of claim 11 wherein Flu is substituted at one of the 4 or 5 positions with a phenyl group which is substituted or unsubstituted.

Appendix B

Proposed Claims

1. (Currently Amended) A olefin polymerization catalyst characterized by the formula

$$B(FluA)MQ_n \qquad (3)$$

wherein:

a. Flu is a fluorenyl group substituted at ~~at least one~~ both of the 4,5 positions by a bulky hydrocarbyl group containing a cyclic compound having from 3 to 30 carbon atoms;

b. A is a substituted or an unsubstituted cyclopentadienyl group, a substituted or unsubstituted indenyl group, or a heteroorgano group XR in which X is a heteroatom from Group 15 or 16 of the Periodic Table, and R is an alkyl group, a cycloalkyl group or an aryl group containing from 1 to 20 carbon atoms;

c. B is a structural bridge between A and Flu imparting stereorigidity to the ligand structure (FluA);

d. M is a Group 4 or Group 5 transition metal;

e. Q is selected from the group consisting of Cl, Br, I, an alkyl group, an amino group, an aromatic group and mixtures thereof; and

f. n is 1 or 2.

2. (Cancelled) The catalyst composition of claim 1 wherein Flu is substituted at both of the 4 and 5 positions with a bulky hydrocarbyl group containing a cyclic compound having from 3 to 30 carbon atoms.

3. (Cancelled) The catalyst composition of claim 1 wherein Flu is mono-substituted at the 4 or 5 position and is otherwise unsubstituted.

4. (Cancelled) The catalyst composition of claim 1 wherein Flu is mono-substituted at the 4 or 5 position and is di-substituted at the 2,7 positions with alkyl groups, phenyl or substituted phenyl groups, which may be the same or different.

5. (Cancelled) The catalyst composition of claim 4 wherein the fluorenyl group Flu is di-substituted at the 2,7 positions with substituents of a lower molecular weight than the substituent at the 4 or 5 position.

6. (Cancelled) The catalyst composition of claim 4 wherein the fluorenyl group Flu is di-substituted at the 3,6 position with alkyl groups of a lower molecular weight than the substituent at the 4 or 5 position.

7. (Original) The catalyst composition of claim 1 wherein A is a heteroorgano group XR and X is N, P, O or S.

8. (Cancelled) The composition of claim 6 wherein 7 is N and R is a mononuclear aromatic group or an alkyl group or cycloalkyl group containing from 1 - 20 carbon atoms.

9. (Original) The composition of claim 1 wherein said structural bridge B is characterized by the formula ER'R" wherein E is C, Si or Ge and R' and R" are each independently an alky group, an aromatic group or a cycloalkyl group.

10. (Original) The composition of claim 1 wherein A is a substituted or unsubstituted cyclopentadienyl group.

11. (Original) The composition of claim 10 wherein M is titanium, zirconium or hafnium.

12. (Original) The composition of claim 11 wherein Flu is substituted at one of the 4 or 5 positions with a phenyl group which is substituted or unsubstituted.

13. (Original) The composition of claim 12 wherein A is cyclopentadienyl group substituted at the 3 position with a tertiary butyl group.

14. (Original) The composition of claim 13 wherein said cyclopentadienyl group is substituted at the 5 position with a methyl group.

15. (Original) The composition of claim 13 wherein said fluorenyl group is di-substituted at the 2,7 positions with isopropyl or tertiary butyl groups.

Appendix C

Evidence

1. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 U.S.P.Q.2d 1321 (fed. Cir. 1995).

2. *Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 347 F.3d 1367 (Fed. Cir. 2003).

3. *Renishaw PLC v. Marposs Societa' Per Azioni*, 48 U.S.P.Q.2d 1117 (Fed. Cir. 1998).

Appendix D

Related Proceedings

Not Applicable